

## University of Colorado Physics Residency Master Schedule 2023 - 2024

Rotation	Topics	Rotation Mentor	First Year Resident												Second Year Resident											
			July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	June
<b>Rotation 1: Workflow, Equipment, Dosimetry</b>	Intro to radiation and workplace safety	<b>Tripp</b> (David T, Leah)																								
	Intro to professionalism and ethics																									
	Intro to equipment operation																									
	Intro to workflow (clinic, sim, planning, treatment)																									
	Dosimeters and dosimetry systems																									
	OSLD calibration and patient QA in vivo measurements																									
	Dosimeters and dosimetry systems																									
Patient IMRT QA measurements																										
<b>Rotation 2: 3D and Advanced Treatment Planning</b>	Communication and interpersonal skills	<b>Kelly</b> (Greg, Moyed)																								
	MU calculations																									
	3DCRT planning and shielding fabrication																									
	Physics plan and chart reviews																									
	IMRT and VMAT treatment planning																									
	TBI and TSE treatments, planning, QA, commissioning																									
<b>Rotation 3: SRS/SRT/SBRT Special Procedures</b>	Physics consults (pregnancy, pacemakers, prosthesis)	<b>David T</b> (Kelly, Tripp)																								
	SRS/SRT/SBRT treatment planning, equipment, QA																									
	Gammaknife																									
<b>Rotation 4: External Beam Machines</b>	Linac design principles	<b>Cem</b> (Jason, Greg)																								
	Beam data measurements and scanning																									
	Beam calibration (TG-51)																									
	Small field dosimetry																									
	Quality and safety strategies																									
	Monthly quality assurance																									
<b>Rotation 5: Brachytherapy</b>	Annual quality assurance	<b>Greg</b> (Quentin, Cem)																								
	Brachytherapy sources and dose calculation																									
	HDR brachytherapy treatment, planning, QA																									
	HDR source exchange																									
	Brachytherapy commissioning																									
	LDR brachytherapy treatment, planning, QA																									
	Radiiodine and intraoperative therapy																									
	State and NRC regulations, radiation safety																									
	Hotlab QA and inventory																									
	Clinical development projects																									
	Emerging treatment planning tools (KBP, MCO, hyperarc, etc) (optional)																									
	<b>Rotation 6: Clinical Projects and Emerging Topics</b>		Scripting and automation (optional)	<b>Leah</b> (David W, Moyed)																						
Protons and charged particle accelerators (optional)																										
Advanced quality and safety techniques (optional)																										
Innovations in imaging for radion therapy (optional)																										
Clinical trials in radiotherapy (optional)																										
Basic principles of imaging																										
<b>Rotation 7: Imaging in Radiation Oncology</b>	Clinical physics in radiology and nuclear medicine	<b>Andrew</b> (Tripp, Cem)																								
	Image registration algorithms & informatics																									
	IGRT & SGRT																									
	Motion management																									
	Imaging QA																									
<b>Rotation 8: Facility Commissioning &amp; Treatment Planning Algorithms</b>	New facility commissioning	<b>Quentin &amp; Jason</b> (Andrew)																								
	Linac acceptance testing and commissioning																									
	Treatment planning algorithms																									
<b>Rotation 9: Beam Modeling and Shielding</b>	Beam modeling	<b>Dave W &amp; Jason</b> (Quentin)																								
	TPS commissioning																									
	Shielding and radiation safety																									
	Clinical physics practice																									

**Key**

	rotation window/observation/participation
	procedures happen rarely, so should be involved whenever they occur if possible
	responsible
	Rotation Q&A focus (other rotation topics are also included)
	practical skills exam

Primary rotation mentor indicated in bold text  
 Rotation assistants indicated in non-bold text in parenthesis